

## CONTRIBUTING AUTHORS

|                     |                      |                      |
|---------------------|----------------------|----------------------|
| L.E. Abbott         | Felipe Fregni        | Loth B. Mercher      |
| Amir Adoni          | Greg C. Gervet       | Gene Miesenböck      |
| Gary Aston-Jones    | Derek B. Glazy       | Guo-Ji Ming          |
| Simon Baron-Cohen   | Natasha D. Glendon   | Darren J. Moore      |
| Matthew K. Belmonte | Enrique Gode         | Dennis D.M. O'Leary  |
| Richard T. Born     | Mary E. Hayden       | Alvaro Pascual-Leone |
| Derek C. Bradley    | Michael Hübner       | Karlheinz Rehm       |
| Jonathan D. Cohen   | Nathaniel Hahn       | Lawrence C. Riegels  |
| Ann-Marie Craig     | Jonathan C. Horton   | Hongbin Song         |
| Erinold L. Davis    | Isabelle G. Kewenig  | Paul M. Thompson     |
| Ted M. Dawson       | Michael London       | Arthur W. Toga       |
| Walter L. Diersen   | Liqun Luo            | Tim A. Unger         |
| Mario de Bont       | Andreas Villu Maritz | Charles L. Winters   |
| Christian Dillen    | Thad McLaughlin      | Andrew B. West       |



# Annual Review of Neuroscience

Volume 28, 2005

Hyman, Jessell, Shatz, Stevens  
*Editors*

# Contents

|                                                                                                                                   |     |
|-----------------------------------------------------------------------------------------------------------------------------------|-----|
| Genetics of Brain Structure and Intelligence<br><i>Arthur W. Toga and Paul M. Thompson</i>                                        | 1   |
| The Actin-Cytoskeleton: Integrating Form and Function at the Synapse<br><i>Christian Dillon and Yukiko Goda</i>                   | 25  |
| Molecular Pathophysiology of Parkinson's Disease<br><i>Darren J. Moore, Andrew B. West, Valina L. Dawson, and Ted M. Dawson</i>   | 57  |
| Large-Scale Genomic Approaches to Brain Development and Circuitry<br><i>Mary E. Hatten and Nathaniel Heintz</i>                   | 89  |
| Autism: A Window Onto the Development of the Social<br>and the Analytic Brain<br><i>Simon Baron-Cohen and Matthew K. Belmonte</i> | 109 |
| Axon Retraction and Degeneration in Development and Disease<br><i>Liqun Luo and Dennis D.M. O'Leary</i>                           | 127 |
| Structure and Function of Visual Area MT<br><i>Richard T. Born and David C. Bradley</i>                                           | 157 |
| Growth and Survival Signals Controlling Sympathetic Nervous System<br>Development<br><i>Natalia O. Glebova and David D. Ginty</i> | 191 |
| Adult Neurogenesis in the Mammalian Central Nervous System<br><i>Guo-li Ming and Hongjun Song</i>                                 | 223 |
| Mechanisms of Vertebrate Synaptogenesis<br><i>Clarissa L. Waites, Ann Marie Craigh, and Craig C. Garner</i>                       | 251 |
| Olfactory Memory Formation in <i>Drosophila</i> : From Molecular<br>to Systems Neuroscience<br><i>Ronald L. Davis</i>             | 275 |
| The Circuitry of V1 and V2: Integration of Color, Form, and Motion<br><i>Lawrence C. Sincich and Jonathan C. Horton</i>           | 303 |

|                                                                                                                                                                   |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Molecular Gradients and Development of Retinotopic Maps<br><i>Todd McLaughlin and Dennis D.M. O'Leary</i> .....                                                   | 327 |
| Neural Network Dynamics<br><i>Tim P. Vogels, Kanaka Rajan, and L.F. Abbott</i> .....                                                                              | 357 |
| The Plastic Human Brain Cortex<br><i>Alvaro Pascual-Leone, Amir Amedi, Felipe Fregni, and Lotfi B. Merabet</i> .....                                              | 377 |
| An Integrative Theory of Locus Coeruleus-Norepinephrine Function:<br>Adaptive Gain and Optimal Performance<br><i>Gary Aston-Jones and Jonathan D. Cohen</i> ..... | 403 |
| Neuronal Substrates of Complex Behaviors in <i>C. elegans</i><br><i>Mario de Bono and Andres Villu Marica</i> .....                                               | 451 |
| Dendritic Computation<br><i>Michael London and Michael Häusser</i> .....                                                                                          | 503 |
| Optical Imaging and Control of Genetically Designated Neurons<br>in Functioning Circuits<br><i>Gero Miesenböck and Ioannis G. Kevrekidis</i> .....                | 533 |

## INDEXES

|                                                               |     |
|---------------------------------------------------------------|-----|
| Subject Index .....                                           | 565 |
| Cumulative Index of Contributing Authors, Volumes 19–28 ..... | 577 |
| Cumulative Index of Chapter Titles, Volumes 19–28 .....       | 582 |

## ERRATA

An online log of corrections to *Annual Review of Neuroscience* chapters  
may be found at <http://neuro.annualreviews.org/>